

Attachment 13

SCOPE OF WORK FOR CORRECTIVE MEASURES IMPLEMENTATION (CMI)

- I. INTRODUCTION** - Based on the outcome of the Corrective Measures Study (CMS), the Respondent is responsible for the design, construction, implementation, and continued performance monitoring of a corrective action at the Facility. The selected corrective action must be implemented and maintained until the corrective action objectives and the conditions of the Order for Termination and Satisfaction have been met.
- A. Purpose** - The purpose of the Corrective Measures Implementation (CMI) is to operate, maintain and monitor the performance of the corrective measure selected by EPA for implementation by Respondent at the Facility.
- B. Scope** - Submittals required for the CMI include:
1. CMI Workplan
 2. Operation and Maintenance (O & M) Plan
 3. Corrective Measures Implementation Report
 4. Corrective Measure Completion Report (CMCR)
 5. Progress Reports.
- II. CMI WORKPLAN** - The CMI Work Plan shall contain the following elements:
- A. Introduction/Purpose** - Describe the purpose of the document and provide a summary description of the project. Elements of this description shall include:
1. Summary of the corrective action objectives;
 2. Description of the corrective measure or measures and rationale for selection;
 3. Performance expectations;

4. Preliminary design criteria and rationale;
5. General operation and maintenance requirements;
6. Long term monitoring requirements;
7. Design and implementation precautions to include but not limited to:
 - a. Special technical problems;
 - b. Additional engineering data required;
 - c. Permits and regulatory requirements; and
 - d. Access, easements, right-of-way.
8. Cost estimates, including the capital and O & M costs.

- B. Project Management Plan** - Describe the construction management approach including levels of personnel authority and responsibility (including an organization chart), lines of communication and the qualifications of key personnel who will direct the corrective measure construction effort and provide construction quality assurance/quality control (including contractor personnel).
- C. Project Schedule** - The project schedule must include timing for key elements of the bidding process, timing for initiation and completion of all major corrective measure construction tasks, and specify when the Construction Implementation Report is to be submitted to EPA.
- D. Construction Quality Assurance/Quality Control Plan** - The purpose of construction quality assurance is to ensure, with a reasonable degree of certainty, that a completed corrective measure will meet or exceed all design criteria, plans, and specifications. The CMI Work Plan must include a Construction Quality Assurance Plan to be implemented by Respondent.

E. Waste Management Procedures - Describe the wastes generated by construction of the corrective measure and how they will be managed.

F. Contingency Procedures - General contingency procedures to be described in the text of the CMI Work Plan include the following:

1. Changes to the design and/or specifications may be needed during construction to address unforeseen problems encountered in the field. Procedures to address such circumstances, including notification of EPA, must be included;
2. The CMI Work Plan must specify that, in the event of a construction emergency (e.g., fire, earthwork failure, etc.), Respondent shall orally notify EPA within 24 hours of the event and will notify EPA in writing within 72 hours of the event. The written notification must, at a minimum, specify what happened, what response action is being taken and/or is planned, and any potential impacts on human health and/or the environment;
3. Procedures to be implemented if unforeseen events prevent corrective measure construction; and
4. List of all emergency contacts (including Phone numbers).

G. Data Management and Documentation Requirements - The O&M Plan shall specify that Respondent collect and maintain the following information:

1. Progress Report Information;
2. Monitoring and laboratory data;
3. Records of operating costs; and
4. Personnel, maintenance and inspection records.

This data and information should be used to prepare Progress Reports and the Corrective Measure Completion Report (CMCR).

- H. Quality Assurance Project Plan\Sampling and Analysis Plan** - Sampling and monitoring activities may be needed for effective operation and maintenance of the corrective measure. To ensure that all information, data and resulting decisions are technically sound, statistically valid, and properly documented, Respondent shall prepare a Quality Assurance Project Plan (QAPP)/Sampling and Analysis Plan (SAP) to document all monitoring procedures, sampling, field measurements and sample analyses performed during these activities. Respondent shall use EPA-approved procedures described in the EPA Requirements for Quality Assurance Project Plans for Environmental Data Operations (EPA QA/R-5).
- I. Health and Safety Plan** - Respondent shall submit to EPA a Health and Safety Plan for all field activity, although it does not require review and approval by EPA. The Health and Safety Plan shall be developed as a stand alone document but may be submitted with the CMI Workplan. The Health and Safety Plan must, at a minimum, comply with all applicable Occupational Safety and Health Act (OSHA) requirements.

III. OPERATION & MAINTENANCE PLAN

Respondent shall prepare an O&M Plan that outlines procedures for performing operations, long-term maintenance and monitoring of the corrective measure. The O&M plan shall, at a minimum, include the following elements:

- A. Introduction/Purpose** - Describe the purpose of the document and provide a summary description of the project.
- B. Corrective Action Objectives** - Discuss the corrective action objectives including applicable media cleanup standards.

- C. Project Management** - Describe the management approach including levels of personnel authority and responsibility (including an organizational chart), lines of communication and the qualifications of key personnel who will operate and maintain the corrective measures (including contractor personnel).
- D. System Description** - Describe the corrective measure and identify significant equipment, as applicable. Provide schematics or process diagrams to illustrate system design and operation.
- E. Personnel Training** - Describe the training process for O&M personnel, as applicable. Respondent shall prepare, and include in the technical specifications governing treatment systems, the contractor requirements for providing: appropriate service visits by experienced personnel to supervise the installation, adjustment, start-up and operation of the treatment systems, and training covering appropriate operational procedures once the start-up has been successfully accomplished.
- F. Start-Up Procedures** - Describe all applicable system start-up procedures including any operational testing.
- G. Operation and Maintenance Procedures** - Describe normal operation and maintenance procedures including:
1. A description of tasks for operation;
 2. A description of tasks for maintenance;
 3. A description of prescribed treatment or operation conditions; and
 4. A schedule showing the frequency of each O&M task.
- H. Replacement Schedule for Equipment and Installed Components.**

- I. Waste Management Practices** - Describe any wastes which may be generated by operation of the corrective measure and how they will be managed.
- J. Corrective Measure Completion Criteria** - Describe the process and criteria for determining when corrective measures have achieved corrective action objectives. Also describe the process and criteria for determining when maintenance and monitoring may cease. Satisfaction of the completion criteria will trigger preparation and submittal of the CMCR.
- K. Contingency Procedures** - Describe, as applicable, the following types of contingency procedures necessary to ensure system operation in a manner protective of human health and the environment:
1. Procedures to address system breakdowns and operational problems including a list of redundant and emergency back-up equipment and procedures;
 2. Alternate procedures to be implemented if the corrective measure suffers complete failure. The alternate procedures must be able to prevent release or threatened releases of hazardous wastes or constituents which may endanger human health or the environment or exceed media cleanup standards;
 3. The O&M Plan shall specify that, in the event of a major breakdown and/or the complete failure of the corrective measure, Respondent shall orally notify EPA within 24 hours of the event and will notify EPA in writing within 72 hours of the event. Written notification must, at a minimum, specify what happened, what response action is being taken and/or is planned, and any potential impacts on human health and/or the environment; and
 4. Procedures to be implemented in the event that the corrective measure is experiencing major operational problems, is not performing to

design specifications and/or will not achieve the cleanup goals in the expected time frame.

If contingencies require modification of the corrective measure in a substantive fashion which also requires physical alteration of the monitoring or remediation equipment, a Construction Work Plan shall be submitted by Respondent upon receipt of a written request for the submittal from EPA. The Construction Workplan shall provide all information necessary to describe the proposed modification to the corrective measure and provide justification for the necessity of the proposed activities to the overall corrective measure effectiveness.

IV. CORRECTIVE MEASURES IMPLEMENTATION REPORT

The purpose of the CMI Report is to document the construction and implementation of the corrective measure at the Facility. Following completion of the activities directed by the approved Construction Workplan, Respondent shall submit a Construction Completion Report which shall consist of the following:

- A.** Purpose;
- B.** Synopsis of the corrective measure, design criteria, and certification that the corrective measure was constructed in accordance with the Final Plans and Specifications;
- C.** Explanation and description of any modifications to the Final CMI Work Plans and Specifications and why these were necessary for the project;
- D.** Results of any operational testing and/or monitoring, indicating how initial operation of the corrective measure compares to the design criteria;
- E.** Summary of significant activities that occurred during construction. Include a discussion of problems encountered and how they were addressed;
- F.** Summary of all inspection findings (including copies of key inspection documents in appendices); and

G. As built drawings or photographs.

V. CORRECTIVE MEASURES COMPLETION REPORT

A. Respondent shall prepare a CMCR when Respondent believes that the corrective measure completion criteria have been satisfied. The purpose of the CMCR is to fully document how the corrective action objectives and corrective measure completion criteria have been satisfied, and to justify why the corrective measure and/or monitoring may cease. The CMCR shall, at a minimum, include the following elements:

1. Synopsis of the corrective measure;
2. Corrective Measure Completion Criteria:
Describe the process and criteria for determining when the corrective measure and maintenance and monitoring may cease. Corrective measure completion criteria were given in the EPA-approved O&M Plan;
3. Demonstration that the completion criteria have been met. Include results of testing and/or monitoring, indicating how operation of the corrective measure compares to the completion criteria;
4. Summary of work accomplishments (e.g., performance levels achieved, total hours of treatment operation, total treated and/or excavated volumes, nature and volume of wastes generated, etc.);
5. Summary of significant activities that occurred during operations. Include a discussion of problems encountered and how they were addressed;
6. Summary of inspection findings (including copies of key inspection documents in appendices); and
7. Summary of total operation and maintenance costs.

VI. PROGRESS REPORTS

Respondent shall provide at a minimum quarterly progress reports on the design, construction, implementation, and operation of the corrective measure at the Facility. Quarterly Progress Reports shall contain the following information to allow the EPA to monitor the progress of the cleanup.

- A.** A description and estimate of the percentage of the corrective measure construction completed.
- B.** A description of significant activities (e.g., sampling events, inspections, etc.) and work completed/work accomplishments (e.g., performance levels achieved, hours of treatment operation, treated and/or excavated volumes, concentration of contaminants in treated and/or excavated volumes, nature and volume of wastes generated, etc.) during the reporting period;
- C.** Summaries of all changes made in the corrective measure construction during the reporting period;
- D.** Summary of system effectiveness. Provide a comparison of system operation to predicted performance levels (applicable only during operation of the corrective measure);
- E.** Summaries of all contacts with representatives of the local community, public interest groups Federal or State government during the reporting period;
- F.** Summaries of all findings (including any inspection results);
- G.** Summaries of all problems or potential problems encountered during the reporting period;
- H.** Actions being taken and/or planned to rectify problems;
- I.** Changes in personnel during the reporting period;
- J.** Projected work for the next reporting period; and

- K. The results of any sampling tests and/or other data generated during the reporting period, as well as copies of the raw data, field logs, etc. which were used to compile those results.
- L. Following completion of the corrective measure construction, at the EPA's discretion, it may reduce the frequency of progress reporting to semi-annual or annual reports only. The frequency of reporting shall be proposed in the O & M Plan, and approved by letter from the EPA to the facility.